

What is claimed is:

1. A method of preparing a monomer selected from the group consisting essentially of AB₂ and B₂A monomers, the method comprising reacting, in an inert atmosphere, tris-(2-aminoethyl)amine with a material selected from the group consisting essentially of

- (i) alkyl acrylates,
- (ii) aryl acrylates,
- (iii) alkyl methacrylates,
- (iv) aryl methacrylates,
- (v) succinic anhydride,
- (vi) glutaric anhydride,
- (vii) 3- propiolactone,
- (viii) cyclic alkyl anhydrides,
- (ix) cyclic aryl anhydrides,

- (x) amine reactive cyclic anhydrides selected from the group consisting of
 - (a) beta-sultones, and
 - (b) ethylene sulfate,
- (xi) dialkyl itaconates,
- (xii) itaconic acids,

in a ratio of from 1:1 to 1:3, at room temperature in the range of about 0°C to about 200°C for a period of time in the range of about 5 minutes to about 120 minutes: thereafter, adding solvent to the reaction mass and heating the mixture at less than 200°C for up to 24 hours.

2. A method for preparing hyperbranched, PAMAM polymers, the method comprising
(I) preparing an AB₂ or B₂A monomer, comprising reacting, in an inert atmosphere,
tris(2-aminoethyl)amine with a material selected from the group consisting essentially of

- (i) alkyl acrylates,
- 5 (ii) aryl acrylates,
- (iii) alkyl methacrylates,
- (iv) aryl methacrylates,
- (v) succinic anhydride,
- (vi) glutaric anhydride,
- 10 (vii) 3- propiolactone,
- (viii) cyclic alkyl anhydrides,
- (vix) cyclic aryl anhydrides,
- (x) amine reactive cyclic anhydrides selected from the group consisting of
 - (a) beta-sultones, and
 - 15 (b) ethylene sulfate,
- (xi) dialkyl itaconates,
- (xii) itaconic acids,

in a ratio of from 1:1 to 1:3, at room temperature in the range of about 0°C to about 200°C
for a period of time in the range of about 5 minutes to about 120 minutes:

20 thereafter, adding solvent to the reaction mass and heating the mixture at less than 200°C
for up to 24 hours;

thereafter, adding one mole equivalent of tris(2-aminoethyl)amine per total ester
or a slight excess in the reaction mass and heating at a temperature in the range of 4°C to
about 200°C for a period of time ranging from about 1 hour to about 30 hours

25 3. A method of preparing hyperbranched, PAMAM polymers the method comprising
reacting the 1,7- dihydrosulfate salt of diethylenetriamine, in an inert atmosphere, with a
material selected from the group consisting essentially of

- (i) alkyl acrylates,
- 30 (ii) aryl acrylates,
- (iii) alkyl methacrylates,

- (iv) aryl methacrylates,
- (v) succinic anhydride,
- (vi) glutaric anhydride,
- (vii) 3- propiolactone,
- 5 (viii) cyclic alkyl anhydrides,
- (vix) cyclic aryl anhydrides,
- (x) amine reactive cyclic anhydrides selected from the group consisting of
 - (a) beta-sultones, and
 - (b) ethylene sulfate,
- 10 (xi) dialkyl itaconates,
- (xii) itaconic acids,

in a ratio of from 1:1 to 1:3, at room temperature in the range of about 0°C to about 200°C for a period of time in the range of about 5 minutes to about 120 minutes:

thereafter, adding solvent to the reaction mass and heating the mixture at less than 200°C

15 for up to 24 hours;

thereafter, adding one mole equivalent of tris(2-aminoethyl)amine per total ester or a slight excess in the reaction mass and heating at a temperature in the range of 4°C to about 200°C for a period of time ranging from about 1 hour to about 30 hours.

- 20 4. A monomer prepared by the process as claimed in claim 1.
- 5. A polymer prepared by the process as claimed in claim 2.
- 6. A polymer prepared by the process as claimed in claim 3.

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